

## PROTECT C

Single phase in/out UPS system

1000 – 10000 VA power supply with integrated batteries



### Uninterruptible security for applications in the SMB sector

VFI / double conversion online technology suitable for safe supply of application-critical loads in the IT environment such as workstations, servers, storage systems and sensitive switching and control systems. The new Protect C models in the 1000, 2000 and 3000 VA offer higher performance level thanks to their unity power factor and top efficiency, representing the consistent development of this well-proven and highly reliable series.

### Optimal control and information

The multilingual graphical LCD display provides the important operating status and measurement values. Events' log data is stored and can be retrieved as a plain text.

### Typical applications

- Server room and small industrial process automation backup systems
- Critical control system backup
- IoT and Industry 4.0
- Financial institutions
- ATM machines
- Edge Computing

## FEATURES

- VFI topology (online/double conversion) protection against all mains network problems
- Top class performance thanks to power factor 1, enhanced available performance by approx. 11%
- Extremely wide input voltage window of 110 VAC to 300 VAC without stress on the internal battery system and with a stable output voltage
- ECO mode for high efficiency operation
- Frequency converter mode
- MODBUS TCP/IP included through RJ45
- Expansion slot for SNMP, potential free contacts, remote display
- Graphic LCD display with interactive multilingual user interface
- Configuration options (password protected) via the input panel
- Internal event data log with plain text display and date/time stamp
- Emergency power off on terminal block (potential-free)

## BENEFITS

- Dual-Monitoring enabled interfaces extend communication opportunities
- New "S"-version with higher charging power for extended autonomy times.
- Universally usable communication slot also allows the integration of SNMP network interface cards which provide monitoring and management options, such as multi-server shutdown
- The multilingual graphical LCD display provides the important operating status and values which can be stored and retrieved in addition to real-time data storage in plain text

# Specifications

## PROTECT C 1000, C 2000, C 2000S, C 3000, C 3000S

CLASSIFICATION VFI ACC. TO IEC 62040-3	C 1000	C 2000	C 2000S	C 3000	C 3000S
Power type rating	1000 VA 1000 W	2000 VA 2000 W	2000 VA 2000 W	3000 VA 3000 W	3000 VA 3000 W
Part number (UPS including integrated battery system)	3000 4615	3000 4616	3000 4626	3000 4617	3000 4616
Part number (additional battery pack)	3000 4618	3000 4619			
<b>UPS INPUT</b>					
Input voltage	160 - 300 VAC @ 100% load, 110 - 160 VAC derating to 50% load linearly				
Frequency (auto selection)	50 Hz / 60 Hz				
Input power factor / (THDi)	≥0.99 (THDi <5 %)				
Current consumption at nominal load (max.)	5 A	9 A	9 A	14 A	14 A
<b>UPS OUTPUT</b>					
Rated output voltage (adjustable)	200 VAC / 208 VAC / 220 VAC / 230 VAC (default) / 240 VAC				
Output power factor	up to 1				
Frequency in battery / frequency converter mode	50 Hz / 60 Hz				
Nominal output current (at 230 VAC)	4.3 A	8.7 A	8.7 A	13 A	13 A
Transfer time at mains outage	0 ms (without interruption)				
Voltage waveform	Sinusoidal, distortion THD <1%				
Overload response (double conversion & battery mode)	100% < load ≤ 105% continuous 105% < load ≤ 125% for 5 minutes 125% < load ≤ 150% for 30 s > 150% for 500 ms (not in battery mode)				
Crest factor	3:1				
Short circuit response	Inverter limits the current within 100ms (3 x I <sub>n</sub> for 100 ms)				
<b>BATTERY</b>					
Type	Sealed, maintenance-free, integrated				
Rated voltage	36 VDC	72 VDC			
Charging current	1.5 A	1.5 A	2/4/6/8 A	1.5 A	2/4/6/8 A
Battery management	Temperature compensated with discharge protection, automatic battery test				
External battery pack	up to 6 x 3000 4618	up to 6 x 3000 4619			
<b>TYPICAL BACKUP TIME @ 100% / 80% LOAD (MINUTES)*</b>					
PROTECT C LCD+	6.7 / 9.2	6.9 / 9.6	NA	4 / 5.3	NA
PROTECT C LCD+ & 1 x EBP	29.1 / 38.5	30.1 / 40	17.7 / 23.8	17.6 / 23.9	10 / 13.8
PROTECT C LCD+ & 2 x EBP	55 / 71.8	56.9 / 74.3	43.3 / 56.9	34.4 / 45.7	25.8 / 34.6
PROTECT C LCD+ & 3 x EBP	82.2 / 106.5	84.9 / 110.2	70.8 / 92.1	52.2 / 68.7	43.2 / 57.1
PROTECT C LCD+ & 4 x EBP	110.2 / 142.2	113.8 / 147.1	99.2 / 128.5	70.6 / 92.4	61.3 / 80.4
PROTECT C LCD+ & 5 x EBP	138.8 / 178.8	143.3 / 184.8	128.4 / 165.8	89.5 / 116.6	80 / 104.4
PROTECT C LCD+ & 6 x EBP	167.9 / 216	173.3 / 223.3	158.2 / 204	108.7 / 141.3	99.1 / 128.9
<b>COMMUNICATION</b>					
Interfaces (dual monitoring)	RS232, USB, communication slot (can be used parallel with RS232 / USB), input contact for emergency shutdown, programmable input and output potential free contact				
Shutdown software	CompuWatch incl. 5 network licenses for all common OS (e.g. Windows, Linux, Mac, Unix)				
User interface / failure indication (acoustic / visual)	3 LED's with traffic light display, detailed indication via LCD display (alarms: at mains failure, overload, battery charging, battery replacement, fan fault, data logger – with clear text display incl. date and time history)				
<b>GENERAL DATA</b>					
Efficiency at nominal load (double conversion mode)	89%	93%			
Efficiency (ECO mode)	96%	97%			
Audible noise (1m distance)	≤40 dB(A)	≤45 dB(A)	≤46 dB(A)	≤45 dB(A)	≤46 dB(A)
Temperature range	0 – 40 °C				
Humidity	0 – 95% (no condensation)				
Operation altitude	Up to 3000 m at nominal load				
EMC conformity	EN 62040-2 Class C2, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5				
Product safety	EN 62040-1				
Mains input	IEC 320 C14		IEC 320 C20		
Number of outputs	4 x IEC 320 C13	8 x IEC 320 C13		8 x IEC 320 C13 + hardware terminal	
Dimensions approx. W x H x D (mm) UPS	145 x 220 x 404		192 x 318 x 428		
Dimensions approx. W x H x D (mm) battery	145 x 220 x 404		192 x 318 x 428		
Weight approx. UPS	12.8 kg	26 kg	11 kg	26.4 kg	11.4 kg
Weight approx. battery	16.8 kg	38.7 kg			
Shipment	Mains input cord (EU, except "S" version), 1x IEC device connection cable, USB communication cable, operating & safety instructions				
Conformity	CE				

\*Backup times are approximate and may vary with equipment, configuration, battery age, temperature, etc.



# PROTECT C 6000 / 10000

High-performance UPS system for IT applications

Thanks to genuine VFI technology (online / double conversion), Protect C is suitable for all critical business applications. The proven VFI topology of Protect C protects against all network problems. A sinus-shaped power feed is achieved under all load conditions at the input. Highly integrated switches and a robust IGBT module reduce the number of electrical connections and components and therefore provide for increased reliability. A Static Bypass Switch (SBS) ensures additional safety in case of overload.

## Maximum control

The bar displays for UPS load and battery capacity, as well as the clear pictogram of the system components provide information on the essential operating conditions. Data is transmitted through an RS232 interface. With an optional SNMP (PRO) adapter, remote monitoring via a web browser and multi-server shutdown are possible. The special AEG PS shutdown software "CompuWatch" is included.

## Switchable in parallel

Protect C 6000 and C 10000 offer the possibility of parallel operation. Both active redundancy and higher availability are achieved with higher power requirements being taken into account.

Also, the combination of power increase and active redundancy is possible, as up to 3 devices can be switched in parallel. Protect C meets the highest security and availability requirements and allows for an economical implementation.

# FEATURES

- VFI topology (online / double conversion) protects against all network problems
- Micro processor control / digital signal processors for maximum availability
- Sinus-shaped power feed (high-frequency pulse width modulation with IGBTs)
- n+x technology for redundancy and performance increase
- Extension slot for SNMP, potential-free contacts, remote panel
- Also available as S-version with higher capacity charging rectifier for longer autonomy times
- Space saving design with integrated battery system
- Integrated fault operation security for manual bypass switch

# Specifications

## PROTECT C 6000, C 10000

### CLASSIFICATION VFI ACC. TO IEC 62040-3

	C 6000	C 10000
Power type rating	6000 VA	10000 VA
	6000 W	10000 W
	Parallel connection	Parallel connection
Part number (UPS including integrated battery system)	3092 4505	3092 4507
Part number (battery pack)	3092 4509	3092 4510

### UPS INPUT

Input voltage	208 VAC / 220 VAC / 230 VAC / 240 VAC	
Voltage range	110 – 275 VAC	
Frequency (auto selection)	45-55Hz / 54-66Hz (extendable to 40-70Hz when load < 60%)	
Input power factor / (THDi)	≥0.98 (< 3%)	
Current consumption at nominal load (max.)	32 A	50 A

### UPS OUTPUT

Rated output voltage (adjustable)	208 VAC / 220 VAC / 230 VAC (default) / 240 VAC	
Output power factor	up to 1	
Frequency in battery mode	50 Hz / 60 Hz ±0.1%	
Output current (at 230 VAC)	26 A	43.4 A
Transfer time at mains outage	0 ms (without interruption)	
Voltage waveform	Pure sine wave	
Overload response (online operation)	<125% for 10 min. / 125% - 150% for 30 s / > 150% for 500 ms Subsequent, transfer to bypass mode	
Crest factor	3 : 1	
Short circuit response	Short circuit proof (3 x I <sub>n</sub> for 200 ms)	

### BATTERY

Type	Sealed, maintenance free, integrated (proprietary brand)	
Rated voltage (linked)	192 VDC	240 VDC
Overload / deep discharge protection	Yes	

### TYPICAL BACKUP TIME @ 100% / 80% LOAD (MINUTES)\*

PROTECT C LCD	5.5 / 7.5	3.7 / 5.1
PROTECT C LCD & 1 x EBP	18.9 / 25.9	15.8 / 21.7
PROTECT C LCD & 2 x EBP	41.4 / 56.9	32.7 / 45
PROTECT C LCD & 3 x EBP	69.7 / 95.7	47 / 63.8
PROTECT C LCD & 4 x EBP	102.3 / 140.6	75.9 / 104.4

### COMMUNICATION

Interfaces	RS232, USB, communications slot for SNMP, potential free relay contact
Shutdown software	CompuWatch incl. 5 network licenses for all common OS (e.g. Windows, Linux, Mac)
Failure indicators (acoustic / visual)	LED display for UPS summary / battery capacity display, status display Indicators for mains failure, overload, battery charging, battery replacement, failure

### GENERAL DATA

Efficiency in ECO+ mode	≥98%	
Efficiency at nominal load (double conversion mode)	≥95%	
Audible noise (1m distance)	<55 dB(A)	
Operating temperature range	0° – 40 °C	
Humidity	0 – 95% (without condensation)	
Operation altitude	Up to 1000 m at nominal load 1000-3000m the power derating is 1% every 100 m according to 62040- 3	
EMC conformity	EN 62040-2 Class C3	
Product safety	EN 62040-1	
Mains input	Secured terminal block	
Load outputs	Secured terminal block	
Dimensions approx. W x H x D (mm) UPS	225 x 589 x 452	
Dimensions approx. W x H x D (mm) battery	225 x 589 x 452	
Weight approx. UPS	61 kg	71 kg
Weight approx. battery	111 kg	115 kg
Shipment	Parallel connection cable, USB communications cable, operating instructions	
Conformity	CE	

\*Backup times are approximate and may vary with equipment, configuration, battery age, temperature, etc.

## AEG Power Solutions

Approach your local AEG Power Solutions representative for further support. Contact details can be found on: [www.aegps.com](http://www.aegps.com)

AEG PS – Protect C – EN – 9/2023 V1 – The technical data in this document do not contain any binding guarantees or warranties. The contents herein serve informational purposes only and are subject to change at any time. We will make binding commitments only upon receipt of concrete enquiries and customer notification of the relevant conditions. Due to the non-binding nature of these terms, we assume liability neither for the accuracy nor completeness of the data provided herein. AEG is a registered trademark used under license from AB Electrolux.